

Abstract

Proton-conducting polymer membrane which comprises polyazoles and is coated with a catalyst layer and its use in fuel cells

5

The present invention relates to a proton-conducting polymer membrane which comprises polyazoles and is coated with a catalyst layer and is obtainable by a process comprising the steps

- A) preparation of a mixture comprising
 - polyphosphoric acid,
 - at least one polyazole (polymer A) and/or one or more compounds which are suitable for forming polyazoles under the action of heat according to step B),
- B) heating of the mixture obtainable according to step A) under inert gas to temperatures of up to 400°C,
- C) application of a layer using the mixture obtained according to step A) and/or B) to a support,
- D) treatment of the membrane formed in step C) until it is self-supporting,
- E) application of at least one catalyst-containing coating to the membrane formed in step C) and/or in step D).

10

15